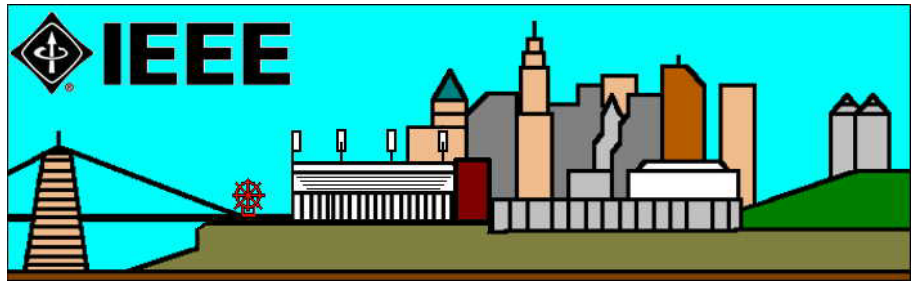


**IEEE CINCINNATI
SECTION
NEWSLETTER
APRIL 2006**



APRIL MEETING
ATMEL's NEW HARD-CPU DESIGN

DATE: Thursday, April 27, 2006

PLACE : Raffel's – 10160 Reading Road (see below for directions)

TIME : 5:30 p.m. to 7:00 p.m. - Social Time/Dinner
7:00 p.m. to 8:30 p.m. - Program

COST FOR DINNER: \$10.00 for Student Members
\$15.00 for Members
\$20.00 for Non-Members

NOTE: DINNERS ARE ALWAYS OPTIONAL - YOU MAY ATTEND THE PROGRAM ONLY.

MENU SELECTIONS: Stuffed Pasta Shells, BBQ'd Ribs, Marinated Char Grilled Chicken Breast, Au Gratin Potatoes, Seasoned Green Beans, Cole Slaw, Tossed Salad, Dinner Rolls and Butter, Assorted Cheese & Fruit Filled Tarts, Coffee, Tea Iced Tea, Soft Drinks. There is also a bar available for the purchase of alcoholic drinks.

LOCATION: Raffel's is located at 10160 Reading Road, south of Glendale-Milford Road on the east side of Reading. Take I-75 to the Glendale-Milford Rd. Exit, go east on Glendale-Milford Road approximately 3/4 of a mile to Reading Rd. and turn right on Reading.

The Section Meetings provide a great opportunity to network with fellow engineers in the area!!!

Please call the Cincinnati Section Voice Mailbox at **513-629-9380**, by **Noon, Tuesday, April 25, 2006** if you plan to attend. Please leave your Name, IEEE Member Number, and a daytime telephone number. You can also make a reservation by e-mailing our Arrangements Chair, Charlie Nash, at cnash@ieee.org.

ABOUT THE MEETING: Last month's meeting was on the trend of implementing soft-CPU's in FPGAs. This meeting, the topic of which will be presented by Mr. Jeff Hunsinger of Atmel, is on the design of a new hard-CPU. Atmel recently announced the AVR32, a new 32-bit microcontroller core, which was designed for high throughput embedded applications, such as streaming media players. It borrows many concepts from modern CPUs and DSPs, such as SIMD instructions, branch prediction, a seven stage pipeline, automatic data forwarding, and out-of-order execution. Because it was designed specifically for the embedded marketplace, special considerations were made to support interrupt handling, low power consumption, and code density. This presentation will describe the architecture of this new core and provide insight into the technical decisions made.

ABOUT THE PRESENTER: Jeff Hunsinger is a field applications engineer at Atmel Corporation. Prior to joining Atmel, Jeff worked as a systems engineer at Motorola, where he redesigned the 68HC05 and 68HC11. He has worked in design positions working from the silicon to the board level. He can be contacted at jhunsinger@atmel.com.

CHAIR'S MESSAGE

by Jim Everly, Section Chair

Like most of our membership I am in the process of doing my taxes and I feel that I am up to my ears with activities and demands on my time. Hence the Chair's message for April will be brief.

I am looking to add new positions to the Cincinnati Section Executive Committee. If you have any interest in serving the Cincinnati Section let me know. The committee meets about four times a year and is responsible for technical meeting and other activities concerning IEEE. In fact, the Cincinnati Section Executive Committee will meet on April 20th to discuss budget matters and plan meetings for the rest of 2006. If you have any requests for technical topics for the section meetings please contact me via email. Better yet if you would like to present a technical topic at one of our meetings be sure to get in touch with me.

Good luck on your taxes! I will see you at the April Section Meeting

MEMBERSHIP NEWS

NEW MEMBERS

The following individuals are IEEE members who are new to our Section:

Andrew J. Allgeier	Wm. Gregory Hoelscher	Neil R. Smith
Daniel B. Bremer	Lei L. Kerr	Raghuram Srinivasan
Keith T. Hagen	Nicholas J. Laposky	Jeremy B. Sutton
Aaron W. Hamilton	Marc A. Lerch	Mary D. Williamson
John P. Hennessey	Paul Love	Donald E. Wright

We wish to welcome these new members to the Cincinnati Section!!!

UC's College of Applied Science Celebrates 20 Years of Tech Expo

Tech Expo, the premier annual event at the College of Applied Science, celebrates 20 years on Friday, May 19. This event showcases the senior design projects completed by students at the College of Applied Science in disciplines ranging from Electrical Engineering Technology to Information Technology to Mechanical Engineering Technology to Construction Management and others. This year's event is again being held at the Cinergy Center downtown, runs from 10am to 4pm and is free and open to the public.

New additions to the event this year include a seminar presented by TechSolve on "lean management" offered at no cost to all Tech Expo business sponsors. The popular VIP Networking Reception returns as well, and new enhancements to sponsorship levels have been made.

IEEE members are encouraged to attend Tech Expo – you will be amazed by the innovative, creative and diverse student projects. Members are also encouraged to consider sponsoring Tech Expo – see the **Fact Sheet on the 2006 Tech Expo** on the Section's Web Page (<http://ieee.cincinnati.fuse.net/>) to learn about sponsorship opportunities. For more information, contact Project Leader Betsy Zelek at bzms@zoomtown.com, or by phone at (513) 702-2732.

College of Applied Science

TECH EXPO 2006

**Become a
Sponsor**

Commemorating
our **20th year**
of Tech Expo

TECH EXPO

Friday, May 19, 2006

Cinergy Center

(Convention Center – downtown Cincinnati)

contact:

Betsy Zelek

513/702-2732

bzms@zoomtown.com

UNIVERSITY OF
Cincinnati

Levels of Participation

EDISON

\$2500

- Be featured as the sponsor of a community of student and business exhibits in your field or discipline. As a sponsor, your 10' x 10' exhibit booth will be placed in a premium location and will feature special signage and draping. *This benefit will be offered to a very limited number of companies and organizations!*
- Sponsor a departmental award named for your business — award will honor a top student display at Tech Expo
- Receive a complimentary booth at the popular CAS Job Fair, held in 2006-07 — a \$250 value that provides access to hundreds of students and alumni!
- Invitation for your company representative to attend the VIP networking reception at Tech Expo 2006; your company will receive special recognition at this event
- Assist in selection of the *Industry Partners Commendation Award* for the best senior project display
- Have a photo of your Expo booth *plus* a special listing as an Edison Community Sponsor in the 2006-07 edition of *Tech Record* (alumni publication — distribution 10,000)
- Special listing as an Edison Community Sponsor in the 2006 edition of the Tech Expo Program

RIEVESCHL

\$1500

- Sponsor a departmental award named for your business — award will honor a top student display at Tech Expo 2006
- Receive a complimentary booth at the popular CAS Job Fair, held in 2006-07 — a \$250 value that provides access to hundreds of students and alumni!
- Assist in selection of the *Industry Partners Commendation Award* for the best senior project display
- 10' x 10' display booth during Tech Expo 2006
- Invitation for your company representatives to attend the VIP networking reception at Expo 2005
- Have a photo of your Expo booth *plus* a corporate listing in 2006-07 edition of *Tech Record* (alumni publication — distribution 10,000)
- Corporate Listing in 2006 edition of the Tech Expo Program

PARKER

\$750

- 10' x 10' display booth during Tech Expo 2006
- Invitation for your company representatives to attend the VIP networking reception at Expo 2006
- Corporate Listing in 2006-07 edition of *Tech Record* (alumni publication — distribution 10,000)
- Corporate Listing in 2006 edition of the Tech Expo Program

Your sponsorship is tax deductible to the fullest extent of the law. Checks should be made payable to the University of Cincinnati Foundation.



The College of Applied Science

Presents

**A Concentrated One-Week Short Course
Designed Specifically For
Practicing Engineers and Technologists**

Programmable Logic Controllers Selection & Functions

June 5-9, 2006

**Professional Development endorsed -
3 ceu credits are offered and validated through
IEEE**

Course is designed to meet the needs of people working in the following fields:

**Electrical and Electrical Engineering Technology,
Mechanical and Electro-mechanical Engineering Technology,
Engineering Consulting,
Programmers of PLC Devices,
Maintenance Personnel in Charge of Industrial Control**

Principal Topics covered include:

**Selection of the appropriate PLC device
Connecting PLC Ports to Contacts, Relays, Switches, Motors, Pilot lights, etc.
Relay Logic and Ladder Logic Rules
Programming (using Allen Bradley SLC500 Series PLCs)
Timer and Counter Functions
Data Handling, Math, and Compare Functions
Jump, Jump Subroutine, and MCR Functions
Digital Bits Shift and Rotate Functions
Sequencer Functions
Local Area Networking PLCs**

Course Format:

Morning lecture – 3 hours followed by Afternoon laboratory exercises – 4 hours

Your Instructor:

Max Rabiee, Ph.D., P.E.

Max has taught for 23 years and has been a member of the faculty of the College of Applied Science for the last 5 years. His industrial experience includes work with Watkins and Associates Engineering Company, University of Kentucky (UK) Center for Robotics and Manufacturing, Project sponsored by Toyota Motor Manufacturing, Wright-Patterson Air Force Base, Sundstrand Aerospace Corporation, and The Tennessee Valley Authority. Max has authored five textbooks and is a Registered Professional Engineer in the State of Kentucky as well as a Senior Member of the Institute of Electrical and Electronic Engineering (IEEE) Society.

Dr. Rabiee has authored five texts and laboratory manuals in Programmable and Small Language Controllers since 2000 and is a frequent contributor to technical journals with more than 30 articles published. In addition to the projects listed above, Max has led grant projects utilizing PLC technology and equipment from National Instruments and Allen-Bradley.

You will need:

All required materials will be provided within the course registration fee.

Registration :

All expenses including ceu registration with IEEE and text are included within the course fee of \$1,495.00.

Payment may be made through check, credit card, or company purchase order. To reserve your seat in this dynamic, hands-on course, please complete the registration form below and either fax to 513-556-5328, call 513-556-6558, mail to: College of Applied Science – ECET, University of Cincinnati, PO Box 210103, Cincinnati, Ohio 45221-0103 or log onto www.uc.edu/cas/polyphase.

Register me for the Short Course

Name: _____

Address: _____

City: _____ **State:** _____ **Zip:** _____

Payment by: Check ____ Company Purchase Order # _____

Credit Card (Visa, Mastercard, Discover) _____

Card Number: _____ Exp. _____

Scanning the Past: A History of Electrical Engineering from the Past
Submitted by Dick Reiman, Historian

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Haraden Pratt

Sixty five years ago this month, the PROCEEDINGS OF THE INSTITUTE OF RADIO ENGINEERS (IRE) included a paper by Haraden Pratt on an aircraft radio beacon. By the time his paper was published, he was an engineer with Mackay Radio and Telegraphy Company of New York City, but he had worked at the National Bureau of Standards when the beacon system was under development. In addition to his technical contributions to radio, Pratt served the IRE and the IEEE in various capacities for more than forty years.

Pratt's May 1929 paper provided a mathematical analysis of field intensity as a function of direction from beacon transmitters located on the ground and maintained by the government. Each transmitter employed two loop antennas and produced two beams which could be picked up by an aircraft receiver with a visual indicator designed to show the pilot whether the plane was on course. If the plane were on the proper course it received two signals of equal intensity on an indicator with two vibrating reeds which gave the appearance of two vertical white lines. If the lines were equal in length, the plane was on course, but, if the right line seemed longer, the plane was off course to the right. The system had a range of about 200 mi and the receiver weighed less than 15 lb. Pratt himself had participated in test flights using the beacon during 1927.

Pratt was born in San Francisco, CA, in 1891 and graduated from the University of California in 1914. Both his parents were telegraph operators and he learned Morse code at an early age. He worked briefly as a wireless operator on ships before entering college and during summers while he was an undergraduate. Soon after his graduation, he joined the American Marconi Company and helped to install a transpacific station in Bolinas, CA. In 1915 he left Marconi to take a job as a radio expert at the Mare Island Navy Yard. He installed radio equipment on Navy ships and installed and maintained shore stations on the West coast until 1918 when he was transferred to Washington, DC.

In 1920, Pratt joined the Federal Telegraph Company in Palo Alto, CA, and designed a system for commercial radio telegraph service. In 1926, the Congress passed the Air Commerce Act which provided funds for development of radio aids to air navigation. J. Howard Dellinger of the Bureau of Standards offered Pratt the opportunity to help develop a suitable system and he worked with Harry Diamond and others on the radio beacon during 1927-1928. In 1928, Pratt accepted an offer to become chief engineer of the recently organized Mackay Radio and Telegraph Company which subsequently was acquired by the International Telephone and Telegraph Company. He remained with ITT until 1951 and became a Vice President and General Manager.

Pratt joined the IRE in 1914 and became a member of the IRE Standardization Committee in 1928. He became an IRE Director in 1935, served as the President of the IRE in 1938, and was Secretary of the Institute from 1943 to 1965. He was awarded the IRE Medal of Honor in 1944 and the Founder's Award in 1960. Pratt served on 25 Institute committees and became the first Chairman of the IRE History Committee when it was formed in 1956. The Haraden Pratt Award was established in 1971 by the IEEE to recognize individuals for their service to the Institute.

During World War II, Pratt was a Division Chief in the Office of Scientific Research and Development and was Chairman of the Radio Technical Planning Board from 1945 to 1949. He was an official observer of the atomic bomb tests at Bikini in 1946. He served as telecommunications advisor to Presidents Truman and Eisenhower during 1951-1953. Pratt was a Vice President of the American Cable and Radio Company from 1953 to 1958. He died in August 1969 at age 78.

*James E. Brittain
School of History, Technology, and Society
Georgia Institute of Technology*

IEEE NEWS

IEEE-USA Questions Need to Expand H-1B Program When Proposals to Increase Permanent Admissions are Better for U.S. High-Tech Workforce

WASHINGTON (20 March 2006) -- Despite numerous government reports pointing out major flaws and weaknesses of the H-1B visa program, Congress is considering increasing the annual H-1B visa cap by at least 50,000 without strengthening safeguards to protect foreign and domestic technology workers.

The reports reveal “significant weaknesses in the H-1B program that must be corrected to ensure that U.S. workers are not adversely affected and H-1B workers are not exploited,” IEEE-USA President Ralph W. Wyndrum Jr. said in a 15 March letter to the Senate Judiciary Committee. “As the administration concluded last year, the program has major flaws that leave it vulnerable to fraud and abuse.”

Wyndrum also questioned why Congress is considering increasing the H-1B visa cap from 65,000 to 115,000, and including an automatic escalator mechanism for future years, when current legislative provisions would expand permanent admissions of skilled foreign professionals. Among the proposals is a new student visa (F-4) that leads to a green card for foreign nationals pursuing advanced degrees in science, technology, engineering and mathematics at U.S. colleges. Another proposal would expand employment-based immigrant admissions visas from 140,000 to 290,000; exclude immediate family members from the limit; recapture unused immigrant visas from prior years and exempt advanced-degree professionals from the cap.

IEEE-USA believes the permanent immigration of skilled scientists and engineers is better for our country’s capacity to innovate and meet high-tech workforce demands than another expansion of the badly broken temporary H-1B guest worker program.

“Immigration-based admissions level the playing field for all workers, and ensure that America benefits from recruiting the world’s best and brightest as future Americans, rather than training future competitors,” Wyndrum said. “We hope Congress will see that permanent immigration is the better solution to strengthening the U.S. high-tech workforce.”

IEEE-USA supports the H-1B reform legislation (<http://www.ieeeusa.org/communications/releases/2005/112105pr.asp>) that Rep. Bill Pascrell (D-N.J.) introduced last November. None of his recommendations for correcting the serious flaws in the H-1B program are included in the latest proposal before Congress.

To see Wyndrum’s letter and a summary of the government reports critical of the H-1B program, go to <http://www.ieeeusa.org/policy/policy/2006/031506b.pdf>

Virginia Rep. Frank Wolf Wins George E. Brown Jr. Leadership Award for Contributions to Science, Engineering & Technology

WASHINGTON (20 March 2006) -- Rep. Frank Wolf (R-Va.) will receive the 2006 George E. Brown Jr. Award for Science-Engineering-Technology Leadership at a Capitol Hill reception on 28 March. The award is presented annually by the Science, Engineering and Technology Work Group to members of Congress who are effective advocates for federal investment in science, engineering and technology. The award is named for the late Rep. George E. Brown Jr. (D-Calif.), who made outstanding contributions to federal support in these areas over a long and distinguished career in Congress.

Wolf was commended for his “longstanding commitment and support of science, engineering and technology” benefiting the nation, and his recognition and promotion of a vital federal R&D enterprise at all levels. He will

be honored in conjunction with the 11th annual Congressional Visits Days, Tuesday and Wednesday, 28-29 March.

Congressional Visits Day (CVD) is the preeminent event bringing scientists, engineers, researchers, educators and technology executives to Washington to visit their congressional representatives and raise visibility and support for science, engineering and technology. The two-day event is coordinated by a multidisciplinary coalition of companies, professional societies and educational institutions that support science, engineering and technology in academia, government and private industry.

For more information on the award and CVD, see <http://www.aas.org/cvd/>.

The Science-Engineering-Technology Work Group, of which IEEE-USA is a member, is an information network of professional, scientific and engineering societies, higher education associations, institutions of higher learning and trade associations. It is concerned about the future vitality of the U.S. science, mathematics and engineering enterprise. Go to <http://www.agiweb.org/cvd/setwgrst.html> for more information.

IEEE's "The Institute" On-Line

The updated issue of IEEE's "The Institute" is always available on-line at <http://www.ieee.org/theinstitute>. Check out some of these items which are featured:

- Millionaire Member Rockets Into Space: Greg Olsen has had a long and accomplished career. He's an IEEE Fellow, the cofounder of two successful high-tech companies, and the recipient of a string of awards. And if that isn't enough, last October he spent 10 days in outer space, visiting the International Space Station -- a trip Olsen funded himself, paying some US \$20 million for a seat on board a cramped Russian Soyuz spacecraft. Find out more at <http://boldfish.ieee.org:80/u/2449/04824637>
- IEEE Web Site Works Smarter, Looks Sharper: The IEEE's Web site not only has a new look, unveiled in mid-January, but it is also better organized and easier to navigate. The remake, which took more than a year, began when the IEEE conducted its first-ever study to find just how easy -- or difficult -- it was to use the site. Read more at <http://boldfish.ieee.org:80/u/2450/04824637>
- Candidates Named for 2007 President-Elect: At least two candidates will be on the 2006 ballot for President-Elect, Life Fellow Lewis M. Terman and Fellow John R. Vig. The winner of the election will succeed Leah Jamieson, whose term as IEEE president expires at the end of 2006. Learn more about the candidates at <http://boldfish.ieee.org:80/u/2451/04824637>
- Technological Literacy Matters: Whether we use it to treat illness, pay bills, refrigerate foods, or process data, technology continues to be an integral part of everyday life. In response, the IEEE Foundation has launched a new initiative, Technological Literacy Matters. With it, the foundation seeks to raise and distribute funds in support of IEEE programs -- many yet to be proposed -- that improve the technological literacy of people throughout the world. Read more at <http://boldfish.ieee.org:80/u/2453/04824637>
- Join a Society for Half the Price: With the year almost half gone, dues on society memberships and publications have been cut in half. The IEEE's 39 societies focus on a broad range of subjects, and together, they produce 122 publications. Individual memberships and subscriptions become active when paid for and continue through the remainder of 2006. To add societies or publications to existing memberships, visit <http://boldfish.ieee.org:80/u/2454/04824637>

- Get a Sneak Preview of "Cosmic Collisions" on IEEE Spectrum Online: On 18 March, the American Museum of Natural History, in New York City, unveiled a new show, "Cosmic Collisions," about simultaneously destructive and creative catastrophes that have shaped not just the history of Earth, but entire galaxies. IEEE Spectrum got a sneak preview of the show and a behind-the-scenes tour of the museum's astrophysics department, where scientists researched the star formations featured in the exhibit. Read and watch what was previewed in the IEEE Spectrum Online video blog at <http://boldfish.ieee.org:80/u/2455/04824637>
- E-waste Conference Brings Together Researchers and Recyclers: As faster and smaller and better electronics pour into the marketplace, avalanches of outdated equipment pour into garbage dumps. Hundreds of engineers, researchers, and recyclers will be discussing the e-waste problem and ecological issues surrounding manufacturing at two concurrent meetings to be held 8 to 11 May in San Francisco: the Electronics Recycling Summit and the IEEE International Symposium on Electronics and the Environment. Find out more at <http://boldfish.ieee.org:80/u/2457/04824637>
- High-Performance Architectures Examined in New Proceedings: What does the future hold for processor and parallel computer architectures? The proceedings from the 2006 IEEE 12th International Symposium on High Performance Computer Architecture held in February attempts to answer these questions as well as many others. Now available through the IEEE Xplore digital library, the proceedings covers the latest computing technological innovations, including interconnect and network interface architectures and network processor architectures. Visit <http://boldfish.ieee.org:80/u/2458/04824637>
- Benjamin Franklin's London House Opens Its Doors: The IEEE doesn't usually attend open-house parties. But the one held on 17 January in London was special. Representatives of the IEEE Foundation were on hand to celebrate the restoration of the Benjamin Franklin House at 36 Craven Lane on Franklin's 300th birthday -- a restoration made possible by grants totaling US \$140 000 from the IEEE Foundation. Find out more at <http://boldfish.ieee.org:80/u/2597/04824637>
- Ready to Learn With Online Tutorials: The problem: you have to get up to speed quickly on, say, the python programming language. The solution: start with the new ReadyNotes online tutorials from the IEEE Computer Society. Seven tutorials are out so far, and the one-stop guides provide practical nuts-and-bolts instruction across a range of topics geared to software developers, IT professionals, computing instructors, and students. Read more at <http://boldfish.ieee.org:80/u/2598/04824637>
- Mixed Reviews on Member Satisfaction, Survey Shows: Members gave a thumbs-up to the quality of IEEE publications and the process for renewing their membership, but the IEEE Financial Advantage Program and preuniversity educational programs didn't fare as well in the 2005 survey of members about how satisfied they are with the IEEE and its services. Find out more at <http://boldfish.ieee.org:80/u/2599/04824637>
- Access to Copyright Form Just Got Easier: Attention, journal editors and conference organizers: it just got easier to have your authors assign their copyright to the IEEE. Now you can give them access to the IEEE copyright form via the Web -- and you don't even have to be using an IEEE submission system for your manuscripts. Learn more at <http://boldfish.ieee.org:80/u/2601/04824637>
- Marketplace of Ideas: Jail Time for Hackers: In an effort to combat criminal and terrorist activities online, the United Kingdom's parliament is debating a bill that would put anyone caught merely hacking into a computer in jail for 10 years. Is such a sentence necessary, or is it too harsh? Weigh in at institute@ieee.org

- Sign Up Today for IEEE Spectrum's Career Accelerator Forum: Today is the last day to register for tomorrow's forum. The event, which is free, will offer advice on topics such as earning an advanced degree, staying ahead in your field, landing your dream job, and switching careers. You'll also be able to e-mail questions to an expert panel from the convenience of your computer. To sign up for the forum, or for more information as well as a list of panelists, visit <http://boldfish.ieee.org:80/u/2602/04824637>.
- Call for 2006 IEEE Education Award Nominations: The IEEE Educational Activities Board seeks nominations for seven awards that recognize IEEE members, preuniversity educators, and employers of members who have made noteworthy contributions to education. The nomination deadline is 30 April. For award descriptions, honorarium details, and nomination packets, visit <http://boldfish.ieee.org:80/u/2605/04824637>
- Online Seminars Offer Tips for Searching the IEEE Digital Library: Users of the IEEE digital library who want to improve their research skills can attend a free online training seminar, "Searching with IEEE Xplore," which is being offered on 19 April, 10 May, and 16 May. Advance registration is required, and space is limited. To sign up, visit <http://boldfish.ieee.org:80/u/2606/04824637>
- Welcome to the Vlogosphere: Video blogs, or vlogs, are putting the "me" in media, and radically transforming the way we receive and send visual content. With distribution decentralized by advances in file-transfer technology, you can be the audience or the producer. Is this a good thing? Find out at <http://boldfish.ieee.org:80/u/2607/04824637>.

Five New IEEE-USA E-Books Cover Consulting to Radio Frequency Identification

WASHINGTON (24 March 2006) -- IEEE-USA's E-Book Publishing Program now has five e-books available at a special discounted price for IEEE members on consulting, electric energy reliability, radio frequency identification (RFID), interoperability for the National Health Information Network (NHIN), and career planning.

In "The Best of IEEE-USA Today's Engineer: On Consulting," IEEE-USA's first e-book concentrates 65 pages of content for consultants into one resource. Find information on how to start a local consultants network; how to make sure you get paid for your work; and how to make the transition from marketing to paid consulting.

IEEE-USA's second e-book, "The Reliability of the Electric Transmission Infrastructure in the 21st Century," examines the raging battle between market pressures, technical necessities and policy priorities relating to modern energy and electricity sectors. Engineers, economists and policy specialists must be knowledgeable about all sides, as the vital American energy infrastructure depends on it. This e-book provides a detailed analysis of "The Energy Policy Act of 2005."

A third e-book focuses on "The State of Radio Frequency Identification (RFID) Implementation and Its Policy Implications." Based on a white paper by IEEE-USA's Committee on Communications and Information Policy, it provides a basic introduction to RFID technology and surveys its implementation.

Another whitepaper provides the basis for the fourth e-book, "Interoperability for the National Health Information Network (NHIN)." It outlines a definition of interoperability for the NHIN; discusses the role of standards in guaranteeing interoperability; and classifies standards for developing a national health information network to provide a secure and reliable transport for healthcare information.

For members examining career goals and interests, IEEE-USA's fifth e-book, the "Career Planning Guide," can help you achieve greater satisfaction and have a greater impact at work and in your career. The "Guide" is a tool to assist you in identifying, determining and tailoring solutions.

Most IEEE-USA e-books are available to IEEE members at a specially discounted price of \$4.95. Nonmembers pay \$14.95 and \$19.95. To purchase any of these eBooks, go to <http://www.ieeeusa.org/communications/eBooks/default.asp>

U.S. Citizen Hurt by H-1B Program Testifies before Congress

WASHINGTON (30 March 2006) -- The H-1B visa program was intended to give U.S. companies access to foreign workers when qualified U.S. citizens cannot be found. Salaries paid to foreign and domestic workers are supposed to be at the market rate for a given occupation. For many, however, the reality is far from the intent.

"There are thousands of unemployed Americans with the skills, drive and creativity needed to thrive in the current marketplace," said David Huber in written testimony submitted to the House Judiciary Committee Subcommittee on Immigration, Border Security and Claims. "Yet too many cannot find jobs because companies are turning to H-1B workers as a first choice, before even advertising open positions to American workers."

Huber, who testified before the subcommittee today, is a former lead network engineer for a NASA space shuttle project who was hurt by the H-1B program twice. First, after being assured in early 2002 that he was within the salary range for experienced network technologists at Bank One (now JP Morgan Chase) in Chicago, he was told that the job he was applying for actually paid \$30,000 less per year. Meanwhile, around that time, Bank One received permission from the Department of Labor to hire 33 H-1B workers, 14 in Chicago, including for jobs Huber was qualified to perform, according to his testimony.

"At about the same time I was offered a job for \$30,000 less than market rates, Bank One was telling the U.S. government that it couldn't find qualified Americans to do the type of work I was already doing," Huber testified.

Then, three months after being hired as a network consultant at Commonwealth Edison (Com Ed) in 2003, the company that provides electricity for most of the Chicago area, Huber was replaced by three non-U.S. citizens. None of the three were employed by Com Ed, and two of the replacement workers came from a job shop in Houston.

"In both instances -- at Bank One and Com Ed -- those hired were less qualified than I was," Huber testified. "They had less experience and had never managed a project before."

Huber's experience is not unique. Thousands of U.S. citizens have been replaced by H-1B visa holders, often at lower wages. Many have also had to train their replacements if they wanted to receive a severance package.

The administration's Office of Management and Budget concluded in a 2005 report (<http://www.whitehouse.gov/omb/expectmore/detail.10002378.2005.html>) that the H-1B program is "vulnerable to fraud or abuse." The report recommended adding "an audit function or other anti-fraud protections," and advocated requiring "employers filing H-1B applications to test the labor market to ensure no U.S. workers are available and willing to fill the position." Go to <http://judiciary.house.gov/oversight.aspx?ID=229> for links to Huber's testimony and that of the three other witnesses.

Rather than expanding the H-1B program, as the Senate Judiciary Committee has recommended, IEEE-USA believes the permanent immigration of skilled scientists and engineers is better for our country's capacity to

innovate and meet high-tech workforce demands. IEEE-USA also supports the H-1B reform legislation (<http://www.ieeeusa.org/communications/releases/2005/112105pr.asp>) that Rep. Bill Pascrell (D-N.J.) introduced last November.

The IEEE Cincinnati Section Executive Committee **Member Names and Phone Numbers**

Cincinnati Section Voice Mail	513-629-9380 (call for meeting reservations)
Section Web Page	http://ieee.cincinnati.fuse.net/
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Steve Olenick - Vice Chair	513-554-2059 (Office), 513-642-3220 (Fax), steveo@nsseng.com (E-mail)
Laurie Tappel - Treasurer	513-397-6383, laurie.tappel@cinbell.com (E-mail)
Ron Harbaugh - Secretary	513-769-3781, ron.harbaugh@ieee.org (E-mail)
Brian J. Resnick - Member-At-Large & PACE Chair	513-556-4244 (Office), 513-759-5367 (Fax), Brian.Resnick@ieee.org (E-mail)
Randy Restle - Member-At-Large	rrestle@ieee.org (E-mail)
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